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### **REMARKS**

Claims 16-30 are pending. Claims 1-15 have been cancelled.

#### **Double Patenting**

The Office Action states that Claims 1-15 are rejected under the judicially created doctrine of obviousness-type double patenting. Claims 1-15 have been withdrawn. Accordingly, it is respectfully submitted that these rejections may now be withdrawn.

#### **Claim Rejections under 35 U.S.C. §112**

The Office Action states that Claims 1-5 and 12 are rejected under §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has withdrawn claims 1-15. New claims 16-30 do not recite the language "to replace or substantially reduce the amount of phenolics." Further, new claims 16-30 possess sufficient antecedent basis. Thus, Applicants submit that this rejection is now obviated and respectfully request that the rejection be withdrawn.

#### **Claim Rejections under 35 U.S.C. §102**

The Office Action states that Claims 1-5 are rejected under §102(b) as being anticipated by Freidzon. Claims 1-5 have been withdrawn. New Claims 16-30 recite an adhesive or binder for impregnating substrates comprising an emulsion polymer, which includes at least 15 weight percent of nitrogen-containing monomers, crosslinking functionality and the addition of a protective colloid. Freidzon discloses a copolymer emulsion having between 0 and 5 weight percent of nitrogen-containing monomers (col. 4, lines 53-55). In contrast, the instant claims recite emulsion polymers having at least 15 weight percent of nitrogen-containing monomers. For these reasons, the Applicant submits that this rejection is now obviated and respectfully requests that the rejection be withdrawn.

The Office Action states that Claims 1, 2 and 5 are rejected under §102(b) as being anticipated by Mueller-Mall et al. Claims 1, 2 and 5 have been withdrawn. New Claims 16-

30 recite an adhesive or binder for substrates comprising an emulsion polymer, which includes at least 15 weight percent of nitrogen-containing monomers, crosslinking functionality and the addition of a protective colloid. Mueller-Mall et al. disclose using nitrogen-containing monomers at a weight percents of 0 to 10 % (col. 2, lines 15-16 and 40-61). In contrast, the instant claims recite emulsion polymers having at least 15 weight percent of nitrogen-containing monomers. For these reasons, the Applicant submits that this rejection is now obviated and respectfully requests that the rejection be withdrawn.

The Office Action states that claims 6, 7, 10-12, and 15 are rejected under §102(b) as being anticipated by Lindemann et al. Claims 6, 7, 10-12 and 15 are withdrawn. New Claims 16-30 recite an adhesive or binder for impregnating substrates comprising an emulsion polymer, which includes at least 15 weight percent of nitrogen-containing monomers, crosslinking functionality and the addition of a protective colloid. While Lindemann et al. do disclose emulsion polymers comprising nitrogen-containing monomers, crosslinkable functionality and the addition of a protective colloid, Lindemann et al. do not specify the percentage of nitrogen-containing monomers in their invention. Further, Lindemann et al. do not disclose any examples describing polymer emulsions having 15 weight percent or more of nitrogen-containing monomers. In the instant invention, the high nitrogen-containing monomer weight percent provides the adhesives and binders with the positive properties of phenolic resins, such as oil and grease resistance, without the disadvantages of phenolics, which include long-term instability and potentially toxic byproducts. Such selection of high nitrogen-containing monomers is not taught or suggested by Lindemann. Thus, Applicants submit that this rejection is now obviated and thus Applicants respectfully request that the rejection be withdrawn.

#### **Claim Rejections under 35 U.S.C. §103**

Claims 3 and 4 are rejected under §103(a) as being unpatentable over Mueller-Mall et al. in view of Freidzon. Claims 3 and 4 have been withdrawn. Mueller-Mall et al. and Freidzon disclose nitrogen-containing monomer weight percents of 0-10 percent and 0-5 percent respectively. There is no suggestion in either reference as to any benefit imparted by

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increasing the weight percentage of nitrogen-containing monomers, and specifically, there is no suggestion in either reference to increase the weight percent of the nitrogen-containing monomers in order to replace phenolic resins as binders or adhesives for non-woven substrates and papers. Because there is no suggestion in the art to increase the weight percent of nitrogen-containing monomer and there is no mention of replacing phenolic resins in general, one skilled in the art would not reach Applicant's invention upon combining the disclosures of Freidzon and Mueller-Mall et al. Therefore, Applicants respectfully request that this rejection be withdrawn.

Claims 8, 9, 13, and 14 are rejected under §103(a) as being unpatentable over Lindemann et al. in view of Freidzon. Claims 8, 9, 13 and 14 have been withdrawn. As discussed above, Neither Lindemann et al. nor Freidzon disclose emulsion polymers with a weight percent of nitrogen-containing monomers of at least 15 percent, as is recited in new claims 16-30. Further, Lindemann et al. did not have the purpose of replacing phenolics and gives no suggestion to either increase the nitrogen content of the emulsion polymers for any purpose, or to use the emulsion polymers to replace phenolics. As stated above, Freidzon provides no suggestion either. Therefore, the combination of the two references would not lead one skilled in the art to either increase the weight percent of nitrogen-containing monomers. Thus, Applicant submits that Lindemann et al. in view of Friedzon does not render the instant invention obvious, and the Applicant respectfully requests that this rejection be withdrawn.

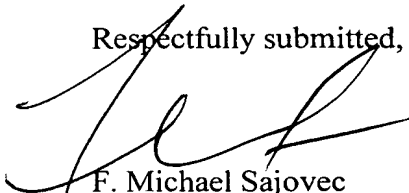
Claims 8, 9, 13, and 14 are rejected under §103(a) as being unpatentable over Lindemann in view of Applicant's admitted prior art. For the reasons stated immediately above, Applicant submits that this rejection is now obviated and respectfully requests that the rejection be withdrawn.

Accordingly, Applicants submit that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any small matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.



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Respectfully submitted,



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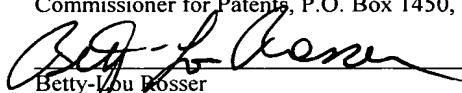
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Betty-Lou Rosser